

CLAIMS

1. A call access control method, comprising the following steps:

5 (1) counting the number of accessed subscribers in all current communication time slots of the home base station for an access request, to determine channel resource occupations in different time slots;

10 (2) comparing said channel resource occupations in the different time slots, and then allocating idle resource units in the time slots having available channel resources and the minimum number of accessed subscribers to the subscriber sending the access request.

2. A method according to claim 1, wherein said access request
15 in step (1) refers to a access call sent from a new mobile subscriber to the home base station.

3. A method according to claim 1, wherein said access request in step (1) refers to a switching call sent from a mobile subscriber to adjacent cells.

20 4. A method according to claim 1, wherein the counting in step (1) comprises:

arranging corresponding counters for different time slots respectively, so that the number of counters are equal to the maximum number of time slots for communication that can be supported
25 by the base station;

counting accessed subscribers in the time slots, and increasing the corresponding counter by 1 if the current resource unit is occupied; otherwise increasing it by 0.

5. A method according to claim 1, wherein step (2) comprises:
30 a) comparing channel resource occupations in all uplink time

slots, and allocating the idle resource unit in uplink time slots having available channel resource and the minimum number of accessed subscribers to the new subscriber sending the access request as an uplink channel; if the idle resource unit is allocated successfully, going to step b), otherwise going to step c);

b) comparing channel resource occupations in all downlink time slots, and allocating the idle resource unit in downlink time slots having available channel resources and the minimum number of accessed subscribers to the new subscriber sending the access request as a downlink channel;

c) returning a response signal to the call access request according to the channel resource allocations in the uplink and downlink time slots.

6. A method according to claim 5, wherein step a) comprises:
comparing all counters storing the count value of accessed subscribers in the uplink time slots one by one, and selecting a counter with the minimum count value in the uplink time slots;

comparing said count value in the counter with the threshold (i.e., the maximum number) of subscribers to be accessed per time slot supported by the base station; if the count value stored in the counter is smaller than the threshold, allocating an idle resource unit in the uplink time slots corresponding to the counter as an uplink channel to the new subscriber sending the access request; otherwise indicating the failed allocation.

7. A method according to claim 5, wherein step b) comprises:
comparing all counters storing the count value of accessed subscribers in the downlink time slots one by one, and selecting a counter with the minimum count value in the downlink time slots;

comparing said count value in the counter with the threshold (i.e., the maximum number) of subscribers to be accessed per time

slot supported by the base station; if the count value stored in the counter is smaller than the threshold, allocating an idle resource unit in the downlink time slots corresponding to the counter as a downlink channel to the new subscriber sending the access request; otherwise indicating the failed allocation.

8. A method according to claim 6 or 7, wherein the threshold (i.e., the maximum number) of subscribers to be accessed per time slot supported by the base station is 6~8, and is determined during initialization.

9. A method according to claim 5, wherein step c) refers to: when the channel resources in the uplink and downlink time slots are both allocated successfully, returning a message to the mobile station sending the access request to indicate the succeeded access; otherwise returning a message to the mobile station sending the access request to indicate the failed access.

10. A method according to claim 5, when the channel resources in the uplink and downlink time slots are both allocated successfully, or returning a message to the mobile station sending the cell switching request to indicate the succeeded cell switching; otherwise returning a message to the mobile station sending the cell switching request to indicate the failed cell switching.